Santa Fe, 33.9; Pueblo, 36.8; Cheyenne, 32.2; Idaho Falls, 26.0; Salt Lake City, 34.0; Los Angeles, 51.6; Fresno, 50.6; Point Reyes Light, 51.2; Sacramento, 50.2; Carson City, 40.4; Winnemucca, 35.6; Idaho Falls, 26.0; Baker City, 30.3; Roseburg, 44.4; Eureka, 50.0; Port Angeles, 39.0. It was not the lowest on record at any regular station of the Weather Bureau.

The *maximum and minimum temperatures* of the current month are given in Table I. The highest maxima were: 87, Los Angeles (9th); 81, Yuma (21st); 80, San Antonio (21st), Jupiter (23d); 79, Key West (23d), Corpus Christi (21st), Phœnix (10th), and San Luis Obispo (10th). Lowest maxima: 34, Sault Ste. Marie (31st); 36, Alpena (12th), Marquette (31st); 38, St. Vincent (21st); 39, Northfield, (3d). The highest minima were: 55, Key West (5th); 42, Point Reyes Light (24th); 40, Jupiter (1st), San Francisco (6th); 39, San Diego 12th). The lowest minima were: —39, St. Vincent (4th); 31, Havre (3d); —27, Moorhead (4th); —25, Duluth (4th), Sault Ste. Marie (5th), Miles City (3d).

The years of highest maximum and lowest minimum temperatures are given in the last four columns of Table I of the current REVIEW. During the present month the maximum temperatures were the highest on record at: Neah Bay, 65; Baker City, 51; Idaho Falls, 39; Pierre, 60; Huron, 51; Sioux City, 63; Salt Lake City, 54; Carson City, 60; Los Angeles, 87; Yuma, 81. The minimum temperatures were the lowest on record at: Narrangansett Pier, —11; Block Island, —4.

The greatest daily range of temperature and the extreme monthly ranges are given for each of the regular Weather Bureau stations in Table I, which also gives data from which may be computed the extreme monthly ranges for each station. The largest values of the greatest daily ranges were: Helena, 55; Rapid City, 54; Pueblo, 53; Havre, 52. The smallest values were: Key West, 12; Point Reyes Light, 15; Port Huron, Grand Haven, and Astoria, 17; Buffalo, Detroit, Hatteras, Galveston, and Fort Canby, 18; San Francisco, 19; Spokane, Nantucket, Philadelphia, Marquette, and Cleveland, 20. Among the extreme monthly ranges the largest values were: Havre, 84; St. Vincent, Rapid City, and North Platte, 77; Miles City, 76; Sioux City, 73; Huron, 72; Pierre, 71. The smallest values were: Point Reyes Light, 19; San Francisco, 23; Key West, 24; Fort Canby, 26; San Diego, 23; Astoria, 29.

Accumulated monthly departure from normal temperatures.—For the period January 1 to 31, the average temperature was above the normal throughout the whole country, except in New England, middle Atlantic, Florida Peninsula, and east Gulf. In regions where the temperature was deficient, the average deficit for the period was as follows: New England, 2.0; middle Atlantic, 1.6; south Atlantic, 2.5; Florida Peninsula, 3.5; east Gulf, 1.6.

In regions where the temperature was in excess, the average excess for the period was as follows: west Gulf, 2.5; Ohio Valley and Tennessee, 2.3; lower Lake, 0.5; upper Lake, 4.2; North Dakota, 4.7; upper Mississippi, 6.4; Missouri Valley, .4; northern Slope, 7; middle Slope, 9.3; southern Slope (Abilene), 4.9; southern Plateau, 4.6; middle Plateau, 8.1; northern Plateau, 9.4; north Pacific, 3.1; middle Pacific, 3.4; southern Pacific, 4.1.

The limit of freezing weather is shown on Chart VI by the isotherm of minimum 32°, and the limit of frost by the isotherm of minimum 40°.

MOISTURE.

The *quantity of moisture* in the atmosphere at any time may be expressed by the weight of the vapor coexisting with the air contained in a cubic foot of space, or by the tension or pressure of the vapor, or by the temperature of the dew-point. The mean dew-points for each station of the Weather Bureau, as deduced from observations made at 8 a. m. and 8 p. m., daily, are given in Table I.

The *rate of evaporation* from a special surface of water on muslin at any moment determines the temperature of the wet-bulb thermometer, but a properly constructed evaporometer may be made to give the *quantity* of water evaporated from a similar surface during any interval of time. Such an evaporometer, therefore, would sum up or integrate the effect of those influences that determine the temperature as given by the wet bulb; from this quantity the *average humidity of the air* during any given interval of time may be deduced.

Measurements of evaporation within the thermometer shelters are difficult to make so as to be comparable at temperatures above and below freezing, and may be replaced by computations based on the wet-bulb temperatures. The absolute amount of evaporation from natural surfaces not protected from wind, rain, sunshine, and radiation, are being made at a few experimental stations and will be discussed in special contributions.

Sensible temperatures.—The sensation of temperature experienced by the human body and ordinarily attributed to the condition of the atmosphere depends not merely on the temperature of the air, but also on its dryness, on the velocity of the wind, and on the suddenness of atmospheric changes, all combined with the physiological condition of the observer. A complete expression for the relation between atmospheric conditions and nervous sensations has not yet been obtained.

PRECIPITATION.

[In inches.]

The *distribution of precipitation* for the current month, as determined by reports from about 2,500 stations, is exhibited on Chart III. The numerical details are given in Tables I, II, and III. The total precipitation for the current month was heaviest on the immediate coasts of northern California, Oregon, and Washington. It was least in southern California, Nevada, and New Mexico. The largest values were: East Clallam, 26.9; Neahbay, 25.8; Tatoosh Island, 22.6; Pysht, 21.4.

The *current departures* from the normal precipitation are given in Table I, which shows that there was a deficit in most regions. The principal excesses were in the Pacific Coast States. Large excesses were: Neahbay, 10.5; Tatoosh Island, 9.3; Sacramento, 5.9; Carson City, 3.3; Palestine, 3.3; Shreveport and San Francisco, 3.2. The large deficits were: Knoxville, 4.3; Chattanooga, 4.2; Nashville, 4.0.

The *average departure* for each district is also given in Table I. By dividing these by the respective normals the following corresponding percentages are obtained (precipitation is in excess when the percentages of the normals exceed 100):

Above the normal: Florida Peninsula, 107; west Gulf, 113; North Dakota, 192; southern Slope, 153; southern Plateau, 144; middle Plateau, 164; north Pacific, 136; middle Pacific, 143; southern Pacific, 119.

Below the normal: New England, 41; middle Atlantic, 45; south Atlantic, 75; east Gulf, 67; Ohio Valley and Tennessee, 42; lower Lake, 71; upper Lake, 76; upper Mississippi, 55; Missouri Valley, 57; northern Slope, 85; middle Slope, 48; northern Plateau, 91.

The years of greatest and least precipitation for January are given in Table I of the REVIEW for January, 1890. The precipitation for the current month was the greatest on record at: Williston, 2.02; Tatoosh Island, 22.57; Neahbay, 25.85; Carson City, 5.26; Sacramento, 9.76; El Paso, 1.63. It was the least on record at: Eastport, 0.84; Northfield, 0.87; Albany, 0.98; Block Island, 2.02; Narragansett Pier, 1.59; Harrisburg, 1.00; Port Huron, 0.69; Green Bay, 0.98; Louisville, 0.82; Lexington, 1.25; Knoxville, 1.49; Parkersburg, 1.42.

The *total accumulated monthly departures* from normal precipitation since the beginning of the current year, furnishes